



Microprocessor Controller

Servicing 800 MHz Trunking, SMR and Public Safety.

The In-Hancer Series includes 40 and 80 dB gain Bi-Directional Amplifier (BDA) models specifically designed to extend 800 MHz^{*} Trunking, SMR and Public Safety coverage into buildings, tunnels and other challenging RF shielded structures.

These models are equally capable of providing full-spectrum linear amplification within their passband and incorporate our latest developments in advanced digital gain control, offering unprecedented precision in both the uplink and downlink paths. Plus, up to 32 dB of gain adjustment can be accommodated in 1 dB increments for increased precision and power. With the purchase of our optional microprocessor controller installers and technicians can quickly and easily set, store and change all relevant system parameters during or after installation, providing the ultimate control at the touch of your fingers.

The Ultimate in affordability and efficiency.

Features & Benefits

Digital Gain Control (DGC) Installers and technicians can define and set DGC levels in 1 dB increments for more precise and exacting control.

Automatic Gain Control (AGC) Installers and technicians can define and set dynamic AGC thresholds. LEDs indicate 'on' when AGC is activated.

Self-Diagnostic and Continuous Monitoring¹ The microprocessor controller performs key system self-diagnostics upon initialization. All functions are then continuously monitored for any change-of-state condition per user-programmed settings.

Password Protected¹ Convenient password protected entry keypad with easy to see two-line twenty character display.

Battery Back-up & Management¹ The microprocessor controller monitors all battery back-up systems (if installed) including battery condition and voltage/charging system.

Thermal Management¹ Power shut-down automatically occurs if heat threshold is exceeded. The microprocessor controller monitors overcurrent/undercurrent status and automatically shuts down the BDA if threshold settings are exceeded.

RS 232 Serial Interface¹ An RS 232 serial interface is provided for convenient alarm monitoring and control. It is also compatible with Kaval's LinkNet Management System.

Easy Maintenance All settings are stored in the controller's non-volatile memory. Modules can be field-changed without system realignment. All modules are 'plug-and-play' to provide minimum delay in system servicing.

Housing Features All bi-directional amplifiers in the In-Hancer Series are housed in rugged painted steel enclosures, making them suitable for the most demanding indoor and outdoor environments. Custom cabinet and stainless steel options are also available.

Installation and Service Features All major components – including uplink and downlink amplifiers, power supply and microprocessor control – are 'plug-and-play/unplug-and-remove' to simplify maintenance and repair and eliminate the need for extensive service equipment on site.

Microprocessor Control This optional feature is unique to all Kaval amplifiers and is one of its most valued assets. It is a fully optimized device that provides installers and technicians with a portrait view of all system controls. This in turn allows them to quickly and easily set, store, and change all relevant parameters during time of installation as well as during service calls.

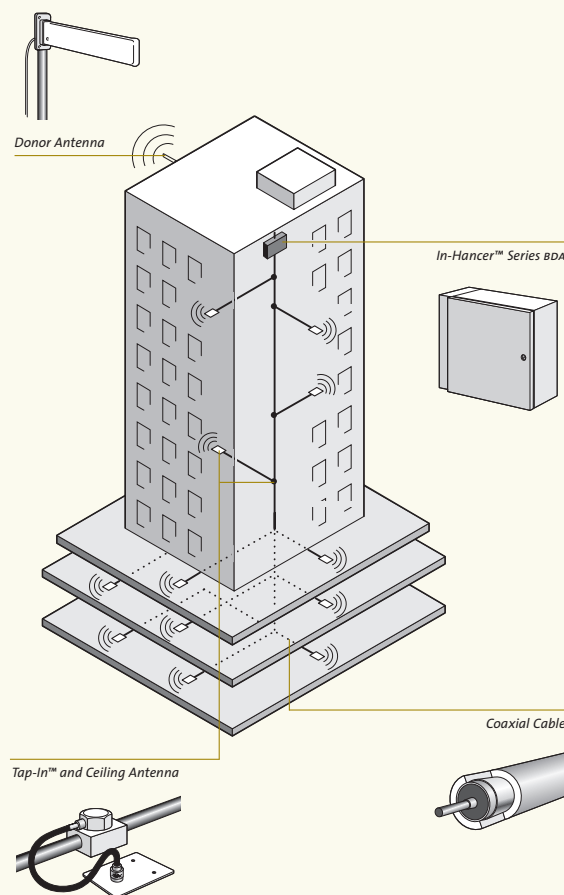
*All In-Hancer Series amplifiers are broadband and provide unlimited channel capacity within their respective bandwidths. Please contact your Kaval representative for special bandwidth requirements.

¹Features are available only with the purchase of the Microprocessor Controller option.

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Product Deployment

Signals are received via an off air donor antenna located on the exterior of the building, from a nearby macro cell site. The In-Hancer Series BDA amplifies the signal which is then distributed to each floor via coaxial cable. Kaval's patented Tap-In signal taps and a series of ceiling mounted antennas provide balanced coverage throughout the building.



Specifications

	BDA800-T-18-40		BDA800-T-18-80	
RF Performance	Downlink	Uplink	Downlink	Uplink
Frequency Range	851-869 MHz	806-824 MHz	851-869 MHz	806-824 MHz
Passband Ripple (typical)	± 2.5 dB	± 2.5 dB	± 2.5 dB	± 2.5 dB
Maximum Gain (nominal)	40 dB	40 dB	80 dB	80 dB
Digital Gain Adjustment	16 dB	16 dB	32 dB	32 dB
AGC Dynamic Range	40 dB	40 dB	40 dB	40 dB
3rd Order Intercept Point IP3 (typical)	+47 dBm	+47 dBm	+47 dBm	+47 dBm
Noise Figure	<8 dB	<8 dB	<8 dB	<8 dB
Propagation Delay	<5 µs	<5 µs	<5 µs	<5 µs
Input Impedance	50 Ω	50 Ω	50 Ω	50 Ω
VSWR	<2:1	<2:1	<2:1	<2:1
Maximum RF Input	+10 dBm	+10 dBm	+10 dBm	+10 dBm

Electrical Specifications

Primary Power	120/240 VAC 150 VA, 50-60 Hz
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Type Acceptance

FCC Type Acceptance	H6M-BDA1200
IC Type Acceptance	1541311193A

Specifications are subject to change.

Mechanical Characteristics

Dimensions (W x H x D)	17" x 16.5" x 11"
Weight	60 lbs. approx.
Connectors	N female
Operating Temperature Range	-10°C to +50°C
Enclosure	Painted Steel – Wall Mount (Stainless Steel upgrade available)

V3-11/02